# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/469,409 | 12/22/1999 | BRIAN A. PETERSEN | M-7907-US | 4940 |

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| EXAMINER |
|---|
| POLLACK, MELVIN H |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2145 | |

DATE MAILED: 02/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | Application No. | Applicant(s) |
|---|---|---|---|
| **Office Action Summary** | | 09/469,409 | PETERSEN ET AL. |
| | | Examiner | Art Unit | |
| | | Melvin H Pollack | 2145 | |

*-- Th MAILING DATE of this communication appears on the cover sheet with th correspond nce address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on <u>04 October 2004</u>.

2a) ☐ This action is **FINAL**.     2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) <u>1,3-12,14,15,17-20,22-25 and 27-29</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1,3,4,6-12,14,15,17,18,20,22,23,25,27 and 28</u> is/are rejected.

7) ☒ Claim(s) <u>5,19,24 and 29</u> is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>22 December 1999</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a) ☐ All   b) ☐ Some * c) ☐ None of:

       1. ☐ Certified copies of the priority documents have been received.

       2. ☐ Certified copies of the priority documents have been received in Application No. _____.

       3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. <u>11/24/04</u>.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☒ Other: <u>see attached office action</u>.

U.S. Patent and Trademark Office

PTOL-326 (Rev. 1-04)           Office Action Summary           Part of Paper No./Mail Date 20041207

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1.      A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection.  Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114.  Applicant's submission filed on 10/4/04 has been entered.

### *Response to Arguments*

2.      Applicant's arguments with respect to claims 1, 3, 4, 6-12, 14, 15, 17, 18, 20, 22, 23, 25,

27 and 28 have been considered but are moot in view of the new ground(s) of rejection.

3.      The examiner has considered the applicant's arguments regarding performing different

processing steps over multiple processors, each processor specializing in a particular step, and

Lakshman's disclosure thereof, to be of some merit as discussed in the interview summary.  As

such, the examiner has withdrawn the 102 rejection, and replaced it with a 103 rejection

regarding Lakshman in view of Kanoh, as shown below.

4.      Due to tremendous confusion regarding the concept of deconstruction vs. filtering, the

examiner sees a need to further address this issue.  Lakshman teaches a filter to sort packets for

the purpose of routing, utilizing a hardware system which extracts header information from the

packet and then searches "filter rule vectors" (abstract; col. 2, lines 20-65) to perform a

comparison.  That is, while "filtering" is indeed not a synonym for either deconstruction or

searching, it is a complex process that inherently includes both steps, both in the general case and

within the specific filtering method described within Lakshman. As said packets may also be

modified, the editing step is also expressly disclosed within Lakshman.

5.      Applicant states that the definition of deconstruction – to unmake or dismantle parts or

elements – does not require that values or attributes of the parts or elements be known or indicate

that any of the parts or elements are necessarily destroyed or discarded following deconstruction.

Given the breadth of the teaching, this is a factual observation. However, said definition does

not *require* that values or attributes of the parts or elements remain unknown nor does said

definition indicate that any of the parts or elements cannot be destroyed or discarded following

deconstruction. Indeed, given that the office does not patent functionality without utility, it

remains that most forms of deconstruction are used to either gain information (packet parsing) or

to reformulate the packet (packet encapsulation/re-encapsulation, i.e. for a new protocol), and if

the deconstruction (more commonly known as parsing or decapsulation) is not for any purpose

regarding learning packet information or changing the packet, then the applicant must change the

claims to explicitly state what purpose deconstruction has.

6.      Furthermore, the full step is to "deconstruct packet header to form header data,"

indicating that the purpose of deconstruction is at the very least to allow that parts or elements be

known. A later step to edit packet based upon the search results, indicating a potential change of

the packet, further indicates that the discarding of original parts or elements may be a secondary

purpose of the deconstruction. At any rate, the first step of filtering based upon header data is to

determine the header data from a previously constructed packet, and thus the deconstruction to

get the data is inherent (col. 4, line 48 – col. 5, line 5). Furthermore, Lakshman teaches that

element 250a receives the incoming packet and stores the parameter in a register (col. 6, lines 10-

15), hence explicitly teaching this step. Whether said filtering also performs other steps is irrelevant given that the claim limitations are not limited and do not teach away from other steps. The method of deconstruction is also irrelevant as the applicant does not teach a method of deconstruction, let alone include clarifying limitations of such, and because methods of deconstruction comprise a broad number of methods from simply looking at the packet to separating packet portions. As for the purpose of deconstruction, while this is also irrelevant, the examiner has indeed matched it. Therefore, part of the filtering process clearly teaches the deconstruction step of the independent claims, and the examiner maintains his rejection in this manner.

7.      The examiner maintains that claims 5, 19, 24 and 29 are allowable, and is unclear as to whether applicant's amendment to make them independent claims indicates a willingness to cancel other claims to make application allowable, possibly with a continuation to re-prosecute cancelled claims.

## Claim Rejections - 35 USC § 103

8.      The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9.      Claims 1, 3, 4, 6, 7, 9-12, 14, 15, 17, 18, 20, 22, 23, 25, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lakshman et al. (5,951,651) in view of Kanoh (6,101,551).

10.    For claim 1, Lakshman teaches a method (see abstract; col. 1, line 1 – col. 2, line 65) of

packet processing (col. 1, lines 5-10) comprising:

    a.    Parsing a packet (col. 2, lines 21-26) using a first peripheral processor (Fig. 8a,

    #225), said packet having a header portion (Fig. 1; col. 1, lines 15-17), to determine a

    vector (col. 2, lines 25-50);

    b.    Coordinating processing using said vector (col. 6, lines 5-10);

    c.    Deconstructing said packet header to form header data (Fig. 4, 6; col. 6, lines 35-

    45);

    d.    Searching one or more data structures based on said header data to produce search

    results (Fig. 7; col. 4, lines 48-67; col. 5, 41-65; col. 6, lines 13-30);

    e.    Editing said packet (where editing can be modifying the header and/or filtering

    packets and/or other packet modification rules) based on said search results, said header

    data, and said vector (col. 6, lines 29-34);

    f.    Wherein said coordinating comprises:

        i.    Storing data within a shared register set coupled to each of said peripheral

        processors (Fig. 8b, #279),

        ii.    Sharing said data with said parsing, said deconstructing, said searching,

        and said editing (col. 5, lines 5-17; col. 6, lines 25-34), and

        iii.    Monitoring said deconstructing, said searching, and said editing (Fig. 8a,

        #210; Fig. 8b, #260 and #265).

11.    Lakshman does not expressly disclose that there are multiple processors with differing

functionality. Lakshman teaches that there is an array of differing functional elements (Fig. 8a,

#250) and that each one has processors for different tasks (Fig. 8B, #250) which may be formed

as an ASIC for FPGA (col. 5, line 65-col. 6, line 10). Kanoh teaches a method (abstract) of

spreading out such functionality over a variety of processors (col. 1, line 1 – col. 4, line 5),

wherein different functions are on different chips (Fig. 1, #1) within a circuit board. At the time

the invention was made, one of ordinary skill in the art would have used Kanoh to better

determine a hardware embodiment for Lakshman and to perform a high-speed receiving

processing (col. 1, lines 55-65).

12.     Neither Laksman nor Kanoh expressly disclose that step 1 is only on processor 1, step 2

is only on processor 2, etc. nor that step 2 is not on processor 1. Examiner takes Official Notice

(see MPEP § 2144.03) that "different steps on different processors" in a computer networking

environment was well known in the art at the time the invention was made. That is, one of

ordinary skill in the art would recognize, given the modularity of both Lakshman and Kanoh,

that such a separation would be performable. Furthermore, it has been taught that making parts

separable is considered obvious (see below) and that the re-arrangement of parts is considered

obvious (see below). Furthermore, the applicant has failed to disclose either an unexpected

benefit or a reasonable difficulty in separating functionality over a set of chips. At the time the

invention was made, one of ordinary skill in the art would have chosen to provide this method in

order to improve Lakshman's parallel processing methods (col. 5, lines 5-10).

13.     In re Dulberg, 289 F.2d 522, 523, 129 USPQ 348, 349 (CCPA 1961) (The claimed

structure, a lipstick holder with a removable cap, was fully met by the prior art except that in the

prior art the cap is "press fitted" and therefore not manually removable. The court held that "if it

were considered desirable for any reason to obtain  access to the end of [the prior art's] holder to

which the cap is applied, it would be obvious to make the cap removable for that purpose."). See

MPEP 2144.04 [R-1] Part V, Section C.

14.     In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950) (Claims to a hydraulic power

press which read on the prior art except with regard to the position of the starting switch were

held unpatentable because shifting the position of the starting switch would not have modified

the operation of the device.); In re Kuhle, 526 F.2d 553, 188 USPQ 7 (CCPA 1975) (the

particular placement of a contact in a conductivity measuring device was held to be an obvious

matter of design choice). However, "The mere fact that a worker in the art could rearrange the

parts of the reference device to meet the terms of the claims on appeal is not by itself sufficient

to support a finding of obviousness. The prior art must provide a motivation or reason for the

worker in the art, without the benefit of appellant's specification, to make the necessary changes

in the reference device." Ex parte Chicago Rawhide Mfg. Co., 223 USPQ 351, 353 (Bd. Pat.

App. & Inter. 1984).

15.     The Applicant is entitled to traverse any/all official notice taken in this action according to MPEP §

2144.03. However, MPEP § 2144.03 further states "See also In re Boon, 439 F.2d 724, 169 USPQ 231

(CCPA 1971) (a challenge to the taking of judicial notice must contain adequate information or argument

to create on its face a reasonable doubt regarding the circumstances justifying the judicial notice)."

Specifically, In re Boon, 169 USPQ 231, 234 states "as we held in Ahlert, an applicant must be given the

opportunity to challenge either the correctness of the fact asserted or the notoriety or repute of the

reference cited in support of the assertion. We did not mean to imply by this statement that a bald

challenge, with nothing more, would be all that was needed". Further note that 37 CFR § 1.671(c)(3)

states "Judicial notice means official notice". Thus, a traversal by the Applicant that is merely "a bald

challenge, with nothing more" will be given very little weight.

16.     For claim 3, Lakshman also teaches buffering said packet before said parsing (col. 1,

lines 30-31; col. 6, lines 7-10).

17.     For claim 4, Lakshman teaches that said deconstructing further comprises forming a

search argument, and said searching uses said search argument (col. 4, lines 47-63).

18.     Claim 6 is drawn to a hardware system that implements the method drawn in claim 1 and

also teaches that a central processor is used to coordinate the method of claim 1, which

Lakshman also teaches (Fig. 8a, #260).  It is well known in the art that a system implementation

is functionally equivalent to the underlying method.  Therefore, since claim 6 is rejected, claim 1

is also rejected for the reasons above.  A teaching that shows the functional equivalence will be

included upon request.

19.     For claim 7, Lakshman teaches that the central processor comprises a general purpose

processor (col. 2, lines 50-53).

20.     For claim 9, Lakshman teaches that the central processor comprises more than one

processor acting in concert (col. 5, lines 45-50).

21.     For claim 10, Laksham teaches that one or more of said peripheral processors comprise

fixed logic circuits (col. 5, line 67).

22.     For claim 11, Laksham teaches that one or more of said peripheral processors comprise

programmable logic circuits (col. 6, line 1).

23.     For claim 12, Laksham teaches that one or more of said peripheral processors comprise

programmable state machine (col. 6, lines 1, 60-65).

24.     For claim 14, Laksham teaches that said central processor and at least one peripheral processor together form at least a part of a single application specific integrated circuit (col. 5, line 67).

25.     Claims 15, 17, and 18 are drawn to a hardware system that implements the method drawn in claims 1, 3, and 4, respectively. It is well known in the art that a system implementation is functionally equivalent to the underlying method. Therefore, since claims 1, 3, and 4 are rejected, claims 15, 17 and 18 are also rejected for the reasons above. A teaching that shows the functional equivalence will be included upon request.

26.     Claims 20, 22, and 23 are drawn to a software system that implements the method drawn in claims 1, 3, and 4, respectively. It is well known in the art that a system implementation is functionally equivalent to the underlying method. Therefore, since claims 1, 3, and 4 are rejected, claims 20, 22, and 23 are also rejected for the reasons above. A teaching that shows the functional equivalence will be included upon request.

27.     Claims 25, 27, and 28 are drawn to a software system, using a carrier wave, that implements the method drawn in claims 1, 3, and 4, respectively. It is well known in the art that a system implementation is functionally equivalent to the underlying method. Therefore, since claims 1, 3, and 4 are rejected, claims 25, 27 and 28 are also rejected for the reasons above. A teaching that shows the functional equivalence will be included upon request.

28.     Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lakshman as applied to claim 6 above, and further in view of Narad et al. (6,421,730).

29.     For claim 8, Narad teaches that the central processor comprises a microsequencer (col.

40, lines 15-20).  Lakshman does not expressly disclose this limitation.  The examiner considers

the type of processor to be a design choice.  At the time the invention was made, one of ordinary

skill in the art would have used a microsequencer to better implement clock cyclings (col. 40,

lines 20-23).

### Allowable Subject Matter

30.     Claims 5, 19, 24, and 29 are objected to as being dependent upon a rejected base claim,

but would be allowable if rewritten in independent form including all of the limitations of the

base claim and any intervening claims.

31.     The following is an examiner's statement of reasons for allowance: the examiner has

determined that the related art do not teach or suggest the modification of this particular type of

search argument for the expressed purpose and within the express embodiment thereof.  Nor is

there taught any motivation to combine with another system to produce this modification of the

search argument.  Therefore, the examiner has determined that claim 5 is allowable.

32.     Claims 19, 24, and 29 teach similar limitations as claim 5 and are therefore allowable for

the reasons above.

33.     Any comments considered necessary by applicant must be submitted no later than the

payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

fee.  Such submissions should be clearly labeled "Comments on Statement of Reasons for

Allowance."

### Conclusion

34.	The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvin H Pollack whose telephone number is (571) 272-3887. The examiner can normally be reached on 8:00-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Harvey can be reached on (571) 272-3896. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MHP
08 December 2004

JACK B. HARVEY
SUPERVISORY PATENT EXAMINER